

Vaginal Cytology

Results in 3,000 Consecutive Women with "Normal" Cervices

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IN THE LAST 15 years cytologic examination of material from the cervix and vagina has become routine in most gynecologic clinics and in many private offices. The results in early diagnosis and prompt treatment of cancer of the cervix have helped to lower the mortality rate associated with this disease.

Although the literature contains many reports of the incidence of detection of carcinoma by cervical and vaginal smears, there is great variation in the data. In large series the range is from 0.9 per cent to almost 6 per cent of patients with proved carcinoma detected by this method. Obviously these data are colored by the type of practice involved and none are truly representative. Clinics dealing only with gynecologic patients have a higher rate because the patients examined have specific complaints referable to the pelvis. In general, reports from cytodiagnostic centers show relatively high proportions of diagnosis of cervical cancer, because most of the specimens sent in for examination are from patients with some clinical signs of cervical abnormality.

Data as to the number of carcinomas that would be found in routine examination of cervical material from an unselected cross-section of patients are still lacking. The criticism has been raised that such a screening procedure would be excessively costly, and that it would be far more practical to take mucoid material or tissue for biopsy only if the patients have signs or symptoms of abnormalities such as erosions, lacerations and cervicitis. The purpose of the present investigation was to determine just how many cases of carcinoma of the cervix would be missed if such a procedure were followed.

MATERIAL AND METHOD

In a medical group, routine screening by the Papanicolaou method was done on women over the age of 30 by the departments of obstetrics and gynecology, internal medicine, and surgery. Notes were made by the examining physician as to whether there was any apparent abnormality of the

• Cytologic examination of 9,000 specimens of mucoid material taken from the cervixes of 3,000 women who had no clinically observable vaginal abnormality was carried out. Sixteen of them had carcinoma, later proved by tissue examination. In 15 cases the lesion was epidermoid carcinoma of the cervix and in one was adenocarcinoma of the endometrium. Routine use of examination of mucoid specimens easily and painlessly obtained from the vagina should contribute substantially to a lower mortality from pelvic carcinoma.

cervix. All cases in which the patient had erosion, lacerations, polyps or palpable abnormality were excluded from this series. Only those in which the cervix was considered normal were included. Nine thousand specimens from 3,000 consecutive cases of women with "normal" cervix and vagina are the material of this report.

Three specimens were taken from each patient. One was obtained by rotating a cotton tipped applicator in the endocervix, another by circumferential scraping of the squamo-columnar junction with a wooden Ayre spatula, and the third by gathering secretion from the posterior fornix on the opposite end of the spatula. All specimens were obtained after the insertion of a moistened vaginal speculum and before the usual bimanual examination with the lubricated gloved fingers. This avoided contamination of the specimens by vaginal jelly. The specimens were immediately placed in an ether-alcohol mixture and were later stained by a modified Papanicolaou procedure.

The age range of patients in the series was from 30 to 82 years. Specimens positive for cancer were found in an age range of 31 to 74 years.

No attempt has been made to include for discussion in this communication the proportion of false negative and false positive results. Nor were results in the present series compared with results in cross-sections of all patients regardless of the condition of the cervix. Statistics on these aspects are being prepared for later report.

In all cases in which the cytologic examination was positive for cancer, biopsy and curettage was done—repeatedly in many cases. Only cases in which carcinoma was proved by biopsy or curettage

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were included in the computation of results. Patients having metaplasia and the so-called "precancer complex" were regularly reexamined and if definite malignant changes developed, as identified in biopsy specimens, they were included in the group used.

RESULTS

Sixteen proved cases of carcinoma were found in the 3,000 women who had no visible or palpable evidence of any abnormality of the cervix—an incidence of slightly more than one-half of 1 per cent. Fifteen were epidermoid carcinomas of the cervix and one was an early endometrial adenocarcinoma. Five of the squamous cell carcinomas occurred in cervical stumps left following subtotal hysterectomies. In seven cases the lesion was noninvasive carcinoma in situ.

DISCUSSION

Further improvement in the mortality rate associated with cancer of the cervix depends in some degree upon diagnosis before the lesions have reached a clinically suspicious stage. Cytodiagnosis is of inestimable value in the detection of unsuspected cases of carcinoma of the cervix and uterus.

Traut and Benson said: "Biopsy is a *focused* cancer test, whereas the use of stained smears and films of aspirated fluid, employing criteria of malignancy is a diffuse biopsy method. Thus they can reveal the smallest cancers or earliest malignant tendencies in the uterine cavity, the cervical canal, or portio. Cancer cells shed more rapidly than normal elements, and the vagina forms a natural repository where they collect."

There is no limit to the number of specimens that can be obtained. The patient is not subjected to pain. Specimens may be obtained as often as desired. They give evidence earlier, and from a larger area, than does tissue biopsy. Obtaining specimens at routine intervals gives added incentive to the patient to have periodic examinations.

Examination of vaginal mucoid specimens is a screening or sorting procedure only. When results of cytologic examination are positive for cancer, biopsy and curettage are absolutely necessary. When results of tissue biopsy and of mucoid material do not agree, repetition at regular intervals is mandatory. It is typical that exfoliation of malignant cells occurs in "showers." Hence results of examination of one specimen may disagree with those on another specimen taken at a different time.

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